



THE COMMONWEALTH OF MASSACHUSETTS
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November 14, 2007

Joel LaBissonniere (*By US Mail and Electronic Mail*)
Assistant General Counsel for Ocean Services (GCOS)
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Office of the General Counsel for Ocean Services
National Oceanic and Atmospheric Administration
U.S. Department of Commerce
1305 East-West Highway, Room 6111, SSMC 4
Silver Spring, MD 20910

Re: *Consistency Appeal by Weaver's Cove Energy, LLC*
Consistency Appeal by Mill River Pipeline, LLC

Dear Sirs:

I enclose for filing on behalf of the Massachusetts Office of Coastal Zone Management, in each of the above-referenced consistency appeals, a motion to supplement the decision record.

Thank you for your attention to these matters.

Sincerely,

Carol Iancu
Assistant Attorney General
Environmental Protection Division

cc: Bruce F. Kiely, Esq. (*By US Mail and Electronic Mail*)
Ralph T. Lepore, III, Esq. (*By US Mail and Electronic Mail*)
Kenneth L. Kimmel, Esq. (*By Electronic Mail*)
Margaret Callanan, Esq. (*By Electronic Mail*)



**UNITED STATES OF AMERICA
BEFORE THE
DEPARTMENT OF COMMERCE**

WEAVER’S COVE ENERGY, LLC)	
)	
Appellant,)	
v.)	Case No. _____
MASSACHUSETTS OFFICE OF COASTAL)	
ZONE MANAGEMENT,)	
Respondent.)	
)	
)	
MILL RIVER PIPELINE, LLC)	
)	
Appellant,)	
v.)	Case No. _____
MASSACHUSETTS OFFICE OF COASTAL)	
ZONE MANAGEMENT,)	
Respondent.)	
)	

RESPONDENT’S MOTION TO SUPPLEMENT THE DECISION RECORD

Pursuant to 15 C.F.R. 930.127(i)(4) and 15 C.F.R. § 930.130(a)(2), respondent

Massachusetts Office of Coastal Zone Management (MCZM) requests the Secretary to accept and include in the decision record for the above-captioned consistency appeals the final determination of the United States Coast Guard, issued October 24, 2007, that a key stretch of the Taunton River is “unsuitable” for the proposed liquefied natural gas (LNG) tanker traffic. *See* Coast Guard Letter of Recommendation and attachments (LOR), attached hereto. The Secretary should accept the Coast Guard’s LOR as “[s]upplemental information” under 15 C.F.R. 930.127(i)(4) because it is “any clarifying information submitted by a party to the proceeding related to information in the consolidated record compiled by the lead Federal permitting agency,” which here is the Federal Energy Regulatory

Commission (FERC). 15 C.F.R. § 930.130(a)(2)(ii)(B). In support of this motion, MCZM states as follows:

1. Weaver's Cove seeks to construct and operate an LNG import terminal on the east bank of the Taunton River in Fall River, Massachusetts, and its affiliate, Mill River Pipeline, LLC, seeks to construct and operate two lateral pipelines to transport revaporized natural gas from the proposed terminal to existing interstate pipeline facilities (collectively, "Project"). Delivery of LNG to the proposed terminal and pipelines would be by way of LNG tankers through Mount Hope Bay and the Taunton River.

2. To accommodate the proposed tanker traffic and otherwise facilitate the Project, Weaver's Cove proposes significant dredging activities, including dredging up to 2.6 million cubic yards of sediment in the federal navigation channel and turning basin, dredging and backfilling in association with installation of the lateral pipelines, and a significant amount of offshore disposal of dredged material. Applications for federal and state permits, licenses, certifications or other approvals (collectively, "Permits") related to various aspects of these dredging related activities are under review by the United States Army Corps of Engineers and the Massachusetts Department of Environmental Protection (MassDEP).

3. In July 2005, FERC issued a conditional approval of the Project that made its operation contingent on the Coast Guard determining that the proposed LNG tanker route is "suitable."

4. On May 9, 2007, the United States Coast Guard issued a preliminary assessment (Assessment) in which it found that "the waterway may not be suitable for the proposed type and frequency of LNG marine traffic." MCZM Supplemental Appendix 14, cover letter, at 2.

5. On June 4, 2007, based on the serious concerns raised by the Coast Guard's Assessment – questioning the viability of the LNG Project and, therefore, the need for dredging – MassDEP decided to stay its technical review of some of the applications for state Permits pending before it. MassDEP concluded that given the likelihood of a negative suitability determination, it should await the Coast Guard's final determination. Weaver's Cove Appendix 9; Mill River Appendix 8.

6. On August 27, 2007, the Applicants commenced these appeals of MCZM's procedural objections.

7. The Coast Guard's Assessment is in the consolidated record. *See e.g.*, letter from Bruce K. Carlisle, Acting Director of MCZM to FERC, dated August 3, 2007, enclosing index to consolidated record (including "Item 142, 5/9/2007, Nash-USCG, Letter Stating Safety and Security Concerns With Attachments"); letter from Bruce F. Kiely, Esq., to Carol Iancu, Assistant Attorney General, dated September 11, 2007 ("The consolidated record is comprised of those materials [MCZM] identified on the index of the consolidated record [MCZM] submitted to the FERC on August 3, 2007 . . .").

8. On October 24, 2007, after the Applicants filed their initial briefs, the Coast Guard issued its LOR, pursuant to 33 C.F.R. § 127.009, declaring a key stretch of the Taunton River to be "unsuitable from a navigation safety perspective for the type, size, and frequency of LNG marine traffic associated with [Weaver's Cove's] proposal." LOR at 1. The Coast Guard concluded that "[t]he sum of measures, mitigations and precautions described in the Weaver's Cove proposal are not sufficient to reduce the risks to a point where the waterway can be declared suitable for the proposed cargo transits." LOR, Encl. 2, at 29. As a result, "to ensure the safety of the waterway," the Coast Guard

felt “compelled . . . to prohibit the recurrent transit of LNG tankers” along a stretch of the Taunton River that is essential for the Project to go forward. LOR at 30.

9. The LOR presents information that clarifies and brings up to date the information in the Assessment. As such, the LOR clarifies information in the consolidated record. Therefore, the LOR is squarely within the type of information contemplated by 15 C.F.R. 930.127(i)(4) and 15 C.F.R. § 930.130(a)(2)(ii)(B).

11. The Coast Guard sent a copy of the LOR to FERC. The LOR is now part of FERC’s consolidated record.

12. As discussed in MCZM’s brief, the Coast Guard’s Assessment is relevant to whether the Project furthers the national interest or is necessary in the interest of national security. *See* MCZM Brief at 4-8, 10-17, 21-24, 26-30. For the same reasons, the Coast Guard’s final, clarifying conclusions, as set out in the LOR, also are.

For the foregoing reasons, the Coast Guard’s final waterway “unsuitability” determination, set forth in its October 24, 2007, Letter of Recommendation, is clarifying information related to information in the Assessment, which is part of the consolidated record. As such, pursuant to 15 C.F.R. 930.127(i)(4) and 15 C.F.R. § 930.130(a)(2)(ii)(B), the Secretary should accept and include the LOR in the decision record for these consistency appeals.

Respectfully submitted,

MASSACHUSETTS OFFICE OF
COASTAL ZONE MANAGEMENT

By its attorney,

MARTHA COAKLEY
ATTORNEY GENERAL



By: Carol Iancu
Assistant Attorney General
Environmental Protection Division
Office of the Attorney General
One Ashburton Place
Boston, MA 02108
Tel. (617) 727-2200, ext. 2428

Dated: November 14, 2007

CERTIFICATE OF SERVICE

I hereby certify that on November 14, 2007, I caused a true and accurate copy of the foregoing motion be served by first-class mail, postage prepaid, and electronic courtesy copies to be sent to the following:

Bruce F. Kiely
G. Mark Cook
Adam J. White
Baker Botts, LLP,
1299 Pennsylvania Ave., NW
Washington, DC 20004

Ralph T. Lepore, III
Dianne R. Phillips
10 St. James Avenue
Boston, MA 02116



Carol Iancu

**U.S. Department of
Homeland Security**

**United States
Coast Guard**



Commanding Officer
U.S. Coast Guard
Sector Southeastern New England

1 Little Harbor Road
Woods Hole, MA 02543
Phone: 508-457-3219
Fax: 508-457-3236-
Email: Edward.G.LeBlanc@uscg.mil

16000
October 24, 2007

BY CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Gordon Shearer
Chief Executive Officer
Weaver's Cove Energy, LLC
One New Street
Fall River, MA 02720

Dear Mr. Shearer

This is my Letter of Recommendation issued pursuant to 33 C.F.R. § 127.009. It is issued in response to your Letter of Intent of May 12, 2004 proposing to transport Liquefied Natural Gas (LNG) by ship to your terminal in Fall River, Massachusetts using large tankers, as amended by your change of information letter dated February 2, 2006 proposing smaller LNG tankers. In making this recommendation, I have compiled and considered a comprehensive administrative record. A complete listing of the documents I considered in making my recommendation is contained in enclosure (1) of this letter, and those documents are incorporated by reference herein. This record includes the additional documentation submitted by you and your counsel in response to my May 9, 2007 letter. I also considered information obtained during my observation of a simulated transit on May 24, 2007, and my own observations of the waterway while onboard deep-draft vessels transiting through Mount Hope Bay and the Taunton River. Enclosure (2) contains my factual determinations, analysis, and detailed recommendations in arriving at an ultimate recommendation.

This Letter of Recommendation is based upon my review of the aforementioned record, and my observations and knowledge of current commercial vessel traffic using the transit route along which you propose. My ultimate recommendation is that the waterway from near Sandy Point, Prudence Island, Rhode Island at approximate position 41° 36' 21"N, 071° 18' 13"W to the proposed facility in Fall River, Massachusetts, is unsuitable from a navigation safety perspective for the type, size, and frequency of LNG marine traffic associated with your proposal.

As I have determined that the above described segment of the proposed transit route is unsuitable from a navigation safety perspective, an exhaustive analysis of the other segments of the intended transit route described in my letter of May 9, 2007 and other factors relevant to waterway suitability for LNG traffic, such as maritime security, were not further analyzed in detail. Therefore, no additional public meetings and workshops with state and local officials, to further address security risks, resource demands, capabilities and coordination requirements, will be held. Moreover, as I view the safety of navigation as paramount, my recommendation that the waterway is unsuitable generated no additional environmental documentation requirements.

The environmental impact of my sole alternative holding that the waterway is unsuitable due to navigation safety determinations is discussed in the May 20, 2005 FERC final environmental impact statement, incorporated by reference herein. I therefore adopt that document.

The determinations, analysis, and ultimate recommendation as to the suitability of this waterway for LNG transits between Sandy Point and Weaver's Cove, as contained in this letter and its enclosures, would be referenced in concert with a Captain of the Port Order, should an LNG transit be attempted along this waterway segment. Such an order would be issued pursuant to my authority under the Ports and Waterways Safety Act of 1972, as amended by the Port and Tanker Safety Act of 1978, 33 U.S.C. §1223, et seq, among other authorities.

Should there be significant changes to the characteristics of the waterway prior to the expiration of FERC's approval order in July 2010, Weaver's Cove may submit a new Letter of Intent in accordance with 33 CFR §127.007.

If you feel aggrieved by this action, you may request reconsideration by me pursuant to 33 C.F.R. §127.015(a). Your request for reconsideration must be submitted to me, in writing, within 30 days of receipt of this letter. If the delay in presenting a written request for reconsideration would have an adverse impact on your operations, you may request to make an oral presentation, but your written request must be submitted within five days of your oral presentation.

If you have questions, my point of contact is Mr. Ed LeBlanc of the Sector Southeastern New England Waterways Management Branch. He may be reached at the address, phone number, and e-mail address listed above.

Sincerely,

ROY A. NASH
Captain, U.S. Coast Guard
Captain of the Port
Southeastern New England

Enclosure: (1) Administrative Record
(2) Determination of Unsuitability

Copy: Commander, First Coast Guard District (d, dp, dl)
Commander, Atlantic Area (Am)
Commandant (CG-3PSO)
Federal Energy Regulatory Commission
Mass and RI Congressional delegations
Mayor, City of Fall River
Applicable state and local agencies

U.S. Coast Guard Sector Southeastern New England
Letter of Recommendation, Weaver's Cove LLC
Enclosure (1), Administrative Record

	<u>Date Signed / Published</u>	<u>Document Originator</u>	<u>Document Title or Subject</u>
1.	March 13, 2000	Dr. A.M. Rothblum, Coast Guard Research & Development Center	"Human Error and Marine Safety." Presented at the Maritime Human Factors Conference 2000, Linthicum, MD, March 13-14, 2000.
2.	January, 2004	NOAA	Chart 13226, Mount Hope Bay
3.	May 12, 2004	Weaver's Cove LLC	Letter of Intent
4.	September 1, 2004	Coast Guard Marine Safety Office Providence	Docket CGD01-04-093, Notice, Request for Comments; Letter of Recommendation, LNG Facility Weaver's Cove, Fall River, MA
5.	September 7, 2004	Coast Guard Marine Safety Office Providence	Ports and Waterways Safety Assessment (PAWSA) Workshop Report, Narragansett Bay
6.	May 20, 2005	FERC	FERC Final Environmental Impact Statement (FEIS)
7.	June 14, 2005	Commandant (G-MSO-2), U.S. Coast Guard	Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic, Navigation and Vessel Inspection Circular (NVIC) No. 05-05
8.	June 27, 2005	City of Fall River, Massachusetts	Weaver's Cove Energy, LLC, Docket #CGD01-04-093
9.	July 7, 2005 (date received)	City of Fall River, Massachusetts	Weaver's Cove Energy, LLC, Docket #CGD01-04-093
10.	July 27, 2005	Captain of the Port, Southeastern New England	Response to Fall River letter of June 27, 2005
11.	August 10, 2005	Mitt Romney, Governor of Massachusetts	Weaver's Cove Energy, LLC Docket #CP04-36-00
12.	August 30, 2005	City of Fall River, Massachusetts	Weaver's Cove Energy, LLC, Docket #CGD01-04-093
13.	October 26, 2005	Marine Safety International	Brightman Street Bridge Simulation Report
14.	December 27, 2005	Commandant (G-MSO-2), U.S. Coast Guard	Petition for rulemaking regarding thermal and vapor dispersion zones

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15.	January 6, 2006	Captain of the Port, Southeastern New England	Operations in the Vicinity of the Naval Undersea Warfare Center, Newport, RI
16.	February 2, 2006	Weaver's Cove LLC	Amended Letter of Intent
17.	February 7, 2006	City of Fall River, Massachusetts	Weaver's Cove Energy, LLC, Docket #CGD01-04-093
18.	February 17, 2006	Senator Edward M. Kennedy, et al	Letter to FERC re: Weaver's Cove Energy
19.	February 24, 2006	City of Fall River, Massachusetts	Weaver's Cove Energy, LLC, U.S. Coast Guard Docket #CGD01-04-093, FERC Docket #CP04-36
20.	February 24, 2006	Senator Lincoln Chaffee	Letter to Captain Mary E. Landry re: Weaver's Cove Energy Change of Information Letter
21.	March, 2006	NOAA	Chart 13227, Fall River Harbor
22.	March 4, 2006	Commander (dpb), First Coast Guard District	Memo regarding Brightman Street Bridge
23.	March 7, 2006	New England District, Corps of Engineers	Weaver's Cove Energy (WCE) proposed dredging of the Taunton River
24.	March 8, 2006	Senator Edward M. Kennedy, et al	Letter to Coast Guard Commandant re: Weaver's Cove Energy
25.	March 13, 2006	Captain of the Port, Southeastern New England	Letter to Weaver's Cove Energy re: Navigation Safety
26.	March 13, 2006	Senator Jack Reed, et al	Letter to Captain Roy A. Nash re: Weaver's Cove Energy
27.	March 17, 2006	New England District, Corps of Engineers	Docket number CP04-36-000 concerning Weaver's Cove Energy (WCE) proposed dredging of the Taunton River in conjunction with the construction of a Liquefied Natural Gas (LNG) Terminal in Fall River, Massachusetts
28.	March 27, 2006	Weaver's Cove LLC	Response to Captain of the Port, Southeastern New England, letter of March 13, 2006
29.	April 3, 2006	KeySpan LNG	Weaver's Cove March 27, 2006 Letter
30.	April 6, 2006	Commandant (G-PWB), U.S. Coast Guard	Preliminary Investigation of the Brightman Street Bridge Across the Taunton River, Mile 2.1, Between Somerset and Fall River, Masssachusetts

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31.	May 5, 2006	Representative David B. Sullivan	Weaver's Cove Energy
32.	May 25, 2006	Commander, First Coast Guard District	Notice of Proposed Rulemaking "Regulated Navigation Area: Narragansett Bay, RI and Mount Hope Bay, MA, Including the Providence and Taunton River".
33.	June, 2006	NOAA	Chart 13221, Narragansett Bay
34.	June 28, 2006	Captain of the Port, Southeastern New England	Status of Coast Guard review of Weaver's Cove proposal
35.	August 21, 2006	Weaver's Cove LLC	Weaver's Cove comments on Notice of Proposed Rulemaking
36.	November 2006	Weaver's Cove LLC	Environmental Assessment of the Use of Smaller Ships
37.	November 22, 2006	Weaver's Cove LLC	Waterway Suitability Assessment
38.	February 21, 2007	Weaver's Cove LLC	Additional Smaller LNG Ship Design, Navigational, and Operational Data
39.	March 20, 2007	Weaver's Cove LLC	Sandia Zones
40.	April 3, 2007	Captain of the Port, Southeastern New England	Response to Weaver's Cove regarding navigation issues
41.	May 2007	Northeast Marine Pilots	"Report on the Feasibility study of the Proposed Weaver Cove LNG Ship to transit from Sea to the proposed LNG terminal in Fall River"
42.	May 8, 2007	Eighth Coast Guard District Bridge Branch	Navigation Review, Brightman Street Bridge Across the Taunton River, Mile 1.8, Between Fall River and Somerset, Massachusetts
43.	May 9, 2007	Weaver's Cove LLC LLC	Initial reply to Coast Guard letter of May 9, 2007

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44.	May 9, 2007	Captain of the Port, Southeastern New England	Preliminary Assessment of Suitability
45.	May 25, 2007	Baker Botts LLP	Transmittal of "Feasibility Report" from Northeast Marine Pilots
46.	June 6, 2007	Baker Botts LLP	Letter of Recommendation process
47.	June 8, 2007	Baker Botts LLP	Maritime Security
48.	June 12, 2007	Baker Botts LLP	Transmittal of Brightman Street Bridge Simulation Report from Marine Safety International
49.	June 20, 2007	City of Fall River	Weaver's Cove Energy LLC
50.	July 18, 2007	Weaver's Cove LLC	Detailed rebuttal to Coast Guard letter of May 9, 2007
51.	July 27, 2007	Baker Botts LLP	Letter of Recommendation process
52.	August 9, 2007	Captain of the Port, Southeastern New England	Consolidated response to eight letters from Weaver's Cove and Baker Botts LLP.
53.	August 9, 2007	Weaver's Cove LLC	Weaver's Cove comments on the city of Fall River's letter to the Coast Guard of June 20, 2007
54.	October, 2007	National Oceanic and Atmospheric Administration (NOAA)	Coast Pilot 2, 36 th Edition, Atlantic Coast: Cape Cod, MA to Sandy Hook, NJ, 2007
55.	October 2, 2007	Captain of the Port, Southeastern New England	Waterways Analysis and Management System (WAMS) Review, Narragansett Bay, Rhode Island and Mount Hope Bay, Rhode Island and Massachusetts
56.	October 16, 2007	Coast Guard Marine Information for Safety and Law Enforcement (MISLE) database	Vessel Critical Profile, M/V WINTERSET
57.	October 16, 2007	Coast Guard Marine Information for Safety and Law Enforcement (MISLE) database	Vessel Critical Profile, M/V CLIPPER RANGER (renamed to M/V ANDERMATT)

A. PROCEDURAL BACKGROUND

1. On December 19, 2003, Weaver's Cove, LLC submitted an application to the Federal Energy Regulatory Commission (FERC) to operate a liquefied natural gas (LNG) terminal in Fall River, Massachusetts. On May 20, 2005 FERC issued its final environmental impact statement for the proposal and on July 15, 2005 FERC authorized Weaver's Cove, in its Order CP-04-0036-000, to site, construct and operate an LNG terminal. On April 17, 2006 FERC denied numerous requests to reconsider their decision and reopen the proceedings.
2. One of the conditions precedent to operation was the completion of a Coast Guard Letter of Recommendation finding the waterway suitable for the transit of LNG tankers. The complete FERC docket can be found at <http://www.ferc.gov/industries/lng/industry-act/terminals/exist-prop-lng.asp>.
3. On May 12, 2004, Weaver's Cove submitted a letter of intent (LOI) pursuant to 33 CFR §127.007 to transport LNG by ship to its proposed terminal in Fall River, Massachusetts by way of Narragansett Bay and Mount Hope Bay, portions of which lie in Rhode Island. The original letter of intent proposed 50-60 transits per year to the Weaver's Cove terminal, using tanker ships 975' long by 145' beam, with a 37.5' draft.
4. On August 10, 2005, the President signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub.L. 109-59. Section 1948 of that Act states that "no Federal funds shall be obligated or expended for the demolition of the existing Brightman Street Bridge..." That bridge, which crosses the transit route proposed by Weaver's Cove in its Letter of Intent, allows only vessels that may safely pass through the 98-foot wide horizontal opening to transit. Subsequent to the Act, Weaver's Cove submitted an amended LOI on February 2, 2006, proposing to use smaller tankers of approximately 725' long by 82' wide by 36' draft. These tankers would make about 120 to 130 deliveries each year. On February 21, 2007, Weaver's Cove provided information on modeling and simulations for its revised proposal. On May 9th, 2007, the Coast Guard Captain of the Port provided Weaver's Cove with the results of his preliminary analysis of the revised LOI, navigation simulations, and modeling information. Weaver's Cove continued to submit information, though not requested, and eight additional submissions between May 9th and August 8th, 2007 were received. In addition, representatives for Weaver's Cove met with the Captain of the Port on May 24th, 2007, and September 4th, 2007, to present a simulated transit, and to discuss the Letter of Recommendation process, respectively.

B. FACTUAL DETERMINATIONS

1. General Description of Waterway: As described in the FEIS and the Letter of Intent as amended LNG tankers would transit the waterway to the Weaver's Cove waterfront LNG facility "via the East Passage of Narragansett Bay and the federal navigation channel in Mount Hope Bay and the Taunton River." For the purposes of this Letter of Recommendation, the waterway described in the FEIS was further segmented to facilitate a navigation safety analysis.

2. Waterway Segments:

- a. **Segment One**: This segment of the waterway is approximately 12.5 nautical miles long, extending from the Narragansett Bay entrance buoy ("NB") north through the East Passage of Narragansett Bay and under the Newport/Pell Bridge to a point adjacent to Sandy Point, Prudence Island, Rhode Island. The U.S. Coast Pilot 2 (Atlantic Coast: Cape Cod, MA to Sandy Hook, NJ), published by the National Oceanic and Atmospheric Administration (NOAA) (see enclosure (1), document 54) describes this segment, commonly referred to as the "East Passage" as:

"East Passage, the principal passage in Narragansett Bay, extends between Rhode Island on the East and Conanicut and Prudence Islands on the west. It is the most direct route to...Mount Hope Bay, and Taunton River.

The Newport Bridge, a fixed highway suspension bridge, crosses East Passage about 3.6 miles above the entrance, between Jamestown and Newport...A privately maintained fog signal is sounded at the Bridge.

The mean range of tide is 3.5 feet...In the entrance (to the East Passage) the flood current is often irregular. There may be a long period of slack water preceding the flood, or there may be a double flood. The flood reaches a strength of about 1.2 knots; the ebb is regular and averages 1.5 knots at strength."

As described in FERC's FEIS (enclosure (1), document 6) "this segment is relatively wide (0.25 to 0.75 mile) and deep (60 to 120 feet)." The Coast Guard periodically conducts a Waterways Analysis and Management System (WAMS) review of the aids to navigation system in this segment, the most recent completed in October, 2007, which found the aids-to-navigation system to be adequate for current users of the waterway. Appendix A is a chartlet of Segment One, and more detailed narrative descriptions of this segment can be found in enclosure (1), documents 3, 6, 33, and 54, among others.

- b. **Segment Two**: This segment of the waterway is approximately 9.6 nautical miles long and extends from the East Passage at Sandy Point, Prudence Island,

northeasterly under the Mount Hope Bridge and through Mount Hope Bay to the area known at Borden Flats where the federal channel in Mount Hope Bay intersects with the private channel leading to the Brayton Point power plant. This segment includes areas of noteworthy infrastructure, including the Mount Hope Bridge and Roger Williams University, and the 400-foot wide federal channel in Mount Hope Bay. The controlling depth for this segment of the waterway is 35 feet MLLW. Weaver's Cove has proposed to dredge the Federal channel to a depth of 37 feet MLLW. The U.S. Coast Pilot 2 (Atlantic Coast: Cape Cod, MA to Sandy Hook, NJ), published by the National Oceanic and Atmospheric Administration (NOAA) (see enclosure (1), document 54) describes this segment, commonly referred to as "Mount Hope Bay" as:

"Mount Hope Bay, in the northeastern part of Narragansett Bay, is the approach to the city of Fall River and Taunton River. There are two approaches to the bay. The approach from the Sakonnet River...is little used. The approach from East Passage is well marked, and with care 34 feet can be carried in the channel into the bay.

Mount Hope Bridge crosses the entrance to Mount Hope Bay between Bristol Point and Rhode Island. The bridge has two lighted towers which are visible for many miles in clear weather and a racon. It is a high-level suspension highway bridge with a clearance of 135 feet.

Borden Flats, the shoal area northward of the channel in Fall River Harbor, is marked by a light equipped with a fog signal.

A Federal project provides for a channel 35 feet deep through Mount Hope Bay to about 0.9 miles above the Bright Street Bridge across the Taunton River at Fall River."

The Coast Guard periodically conducts a Waterways Analysis and Management System (WAMS) review of the aids to navigation system in this segment, the most recent completed in October, 2007, which found the aids-to-navigation system to be adequate for current users of the waterway. Appendix B is a chartlet of Segment Two, and more detailed narrative descriptions of this segment can be found in enclosure (1), documents 2, 3, 6, and 54, among others.

Figure 1A, Waterway Segment Two, Mount Hope Bay:
Bay:



- c. **Segment Three:** This segment of the waterway is approximately 3.3 nautical miles long, and extends from Borden Flats northeasterly into the Taunton River, under the Braga Bridge, through the old and new Brightman Street bridges, to the proposed Weaver's Cove facility on the east bank of the Taunton River in Fall River, Massachusetts. This segment can be characterized as narrow, winding, and in close proximity to significant populations and infrastructure. Densely populated areas in close proximity to this segment include both Fall River and Somerset, Massachusetts; infrastructure includes three bridges and a 400 foot wide Federal Channel which serves the Dominion power plant at Brayton Point, and the NRG power plant opposite the Weaver's Cove site. The controlling depth for this segment of the waterway is 35 feet MLLW. Weaver's Cove has proposed to dredge the Federal channel in this area to a depth of 37 feet MLLW, and dredge the turning basin north of the Brightman Street bridge to a depth of 41 feet MLLW. The U.S. Coast Pilot 2 (Atlantic Coast: Cape Cod, MA to Sandy Hook, NJ), published by the National Oceanic and Atmospheric Administration (NOAA) (see enclosure (1), document 54) describes this segment, commonly referred to as the "Taunton River":

At Fall River, two highway bridges cross Taunton River. The first, a fixed bridge at State Pier, has a (vertical) clearance of 135 feet; a privately maintained fog signal is sounded from the bridge. The second, Brightman Street Bridge, about 1.1 miles above the fixed bridge at State Pier, has a bascule span with a (vertical) clearance of 27 feet....In October 2000, a replacement bascule bridge was under construction about 0.2 miles above the

existing Brightman Street Bridge with a design clearance of 60 feet.

The mean range of tide is 4.4 feet at Fall River and 2.8 feet at Taunton.

In Taunton River the currents generally follow the direction of the channel and, except at bridges, do not hinder navigation. The ebb is usually stronger than the flood.

The Coast Guard periodically conducts a Waterways Analysis and Management System (WAMS) review of the aids to navigation system in this segment, the most recent completed in October, 2007, which found the aids-to-navigation system to be adequate for current users of the waterway. Appendix C is a chartlet of Segment Three, and more detailed narrative descriptions of this segment can be found in enclosure (1), documents 3, 6, 21, and 54, among others.

Figure 1B, Waterway Segment Three, Borden Flats and Taunton River:



- (1) From approximately one mile south of the Braga Bridge, and continuously to the vicinity of the proposed Weaver's Cove site, the federal navigation channel lies in close proximity to downtown Fall River, and within 500- to 1,000-meters from this channel lie population density areas of 1,000 persons per square mile to over 9,000 persons per square mile. See in Figure 3-8 of the Weaver's Cove Waterway Suitability Assessment of November 22, 2006 (enclosure (1), document 37).
- (2) At Battleship Cove, the USS MASSACHUSETTS museum ship hosts approximately 90,000 visitors annually, including approximately 24,000 students and scouts who sleep aboard the vessel for various functions throughout the year. This vessel is approximately 95 feet outside of the channel.
- (3) As a tanker approaches the Braga Bridge from the south, it must turn approximately 55 degrees to port while passing under the bridge, in close proximity to piers and the USS MASSACHUSETTS. Conversely, when approaching the Braga Bridge from the north, a tanker must head directly towards the USS MASSACHUSETTS and the adjacent commercial piers, and then turn approximately 55 degrees to starboard to pass parallel to the USS MASSACHUSETTS and underneath the Braga Bridge.

Figure 2A, Passing USS Massachusetts Museum*



*The USS Massachusetts is 681 feet long and lies approximately 95 feet outside of the navigation channel.

Figure 2B, Passing USS Massachusetts Museum



(4) The September 2004 Ports and Waterways Safety Assessment (PAWSA) identified the Taunton River in the Fall River metropolitan region (to include Somerset) as an area of “very high absolute risk” in terms of consequences from a hazardous materials release. (See enclosure (1), document 5.) Weaver’s Cove was a participant in this Assessment. Consensus could not be reached when participants were asked if current and/or future mitigations could balance that risk. It is important to note that the 2004 PAWSA assumed:

1. The old Brightman Street Bridge would be removed before LNG tanker transits would take place; and
2. LNG tanker deliveries to Fall River would be about one per week.

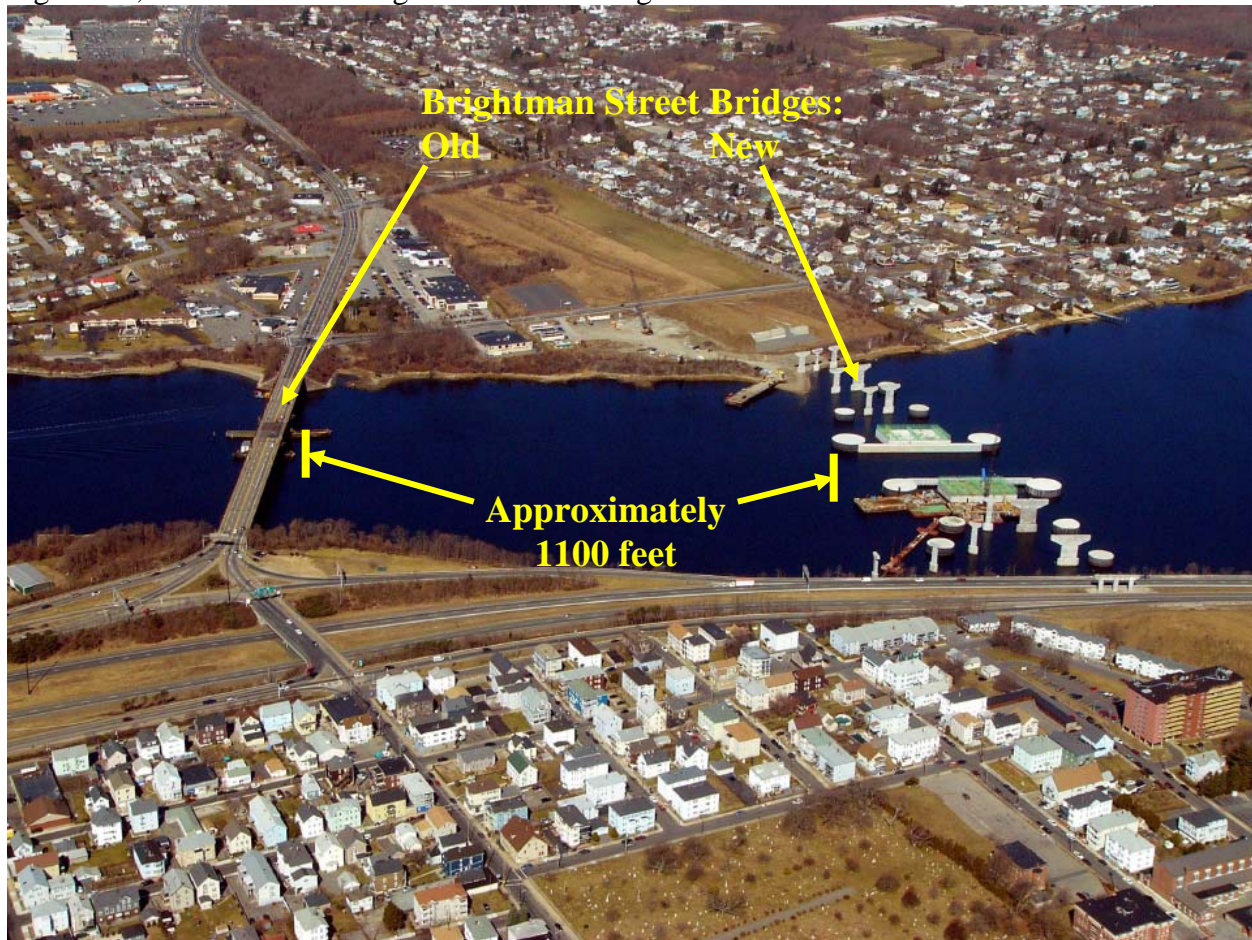
(5) A notable feature of this segment is the proximity of the old and new Brightman Street bridges to each other, the difference in their horizontal opening clearances (98 feet and 200 feet, respectively), and the alignment of their openings with respect to each other, and to the Federal channel. These bridges and their impact

on the waterway are more fully discussed below. See Figures 3A and 3B below for aerial views the Brightman Street bridges.

Figure 3A, Aerial View of Brightman Street Bridges from the southwest:



Figure 3B, Aerial View of Brightman Street Bridges from the east:



- (6) As illustrated in figure 3B, the separation between the nearly parallel old and new Brightman Street bridges is approximately 1100 feet (See enclosure (1), documents 13 and 16. With the respect to the navigation channel, the bridge openings of the old and new bridges are navigationally off-set, requiring a transiting vessel to stop (or be stopped by tugs) between the bridges, be moved laterally approximately 100 feet, and then proceed forward through the next bridge opening. The opening of the old Brightman Street bridge (southernmost of the two) is 98 feet wide and is located adjacent to the western edge of the navigation channel. The opening of the new Brightman Street bridge is 200 feet wide and is located in the center of the navigation channel. When passing through the old Brightman Street Bridge on an inbound transit, the new Brightman Street Bridge is directly ahead. See Figures 4A and 4B. Conversely, when passing through the new Brightman Street Bridge on an outbound transit, the old Brightman Street Bridge is directly ahead. See Figures 5A and 5B.

Figure 4A, Inbound through the Old Brightman Street Bridge



Figure 4B, Inbound through the Old Brightman Street Bridge



Figure 5A, Outbound through the New Brightman Street Bridge



Figure 5B, Outbound through the New Brightman Street Bridge



- (7) In its May 2007 feasibility report (enclosure (1), document 41), the Northeast Marine Pilots indicated concern about the adequacy of the bridge fendering system, particularly the fendering system of the old Brightman Street bridge. The Pilots suggest that the fendering in the old bridge “must be returned to the original design and status so that vessels can make contact with the fendering so that there is no damage to the bridge or the vessel.” The report indicates that the fendering system has not been maintained properly over the last 25 years. Although an impact assessment of the fendering system of the new Brightman Street bridge was included with the original Weaver’s Cove Letter of Intent, no similar impact assessment for the fendering system of the old Brightman Street bridge was submitted. (See enclosure (1), documents 3 and 16.)
- (8) Current commercial traffic through the Brightman Street bridges consists primarily of coal carrying ships, tug/barge combinations, and occasionally heavy fuel barges to the NRG power plant. In nearly every instance tugs are required to safely complete navigation through the two Brightman Street bridges for any commercial vessel. Typical transits of commercial coal ships include, among other tugs, a tug tethered to the stern of the ship to serve as an additional brake and stopping mechanism to a ship’s engines turning propellers in the astern direction. See Figure 6. A tethered tug

astern, while absolutely necessary to ensure a commercial vessel transiting through one Brightman Street bridge does not impact the other bridge, nonetheless essentially adds to the length of any tug/ship combination, further reducing available room for maneuvering between the two bridges

Figure 6, Tug Astern of coal ship, passing through old Brightman Street Bridge



- (9) Other vessels: There are other vessels that routinely berth adjacent to the channel, particularly in the vicinity of the Braga Bridge. There, the channel passes within approximately 120 feet of the State Pier, which houses a container facility and shipping terminal. Fishing and commercial container vessels routinely berth between the west end of the State Pier and the east edge of the shipping channel. The USS MASSACHUSETTS museum is berthed to an appendage on the north side of the State Pier, and its stern is within approximately 95 feet of the channel. See figures 7A and 7B.

Figure 7A, approaching State Pier & USS Massachusetts museum, & under the Braga Bridge



Figure 7B, passing State Pier, & under the Braga Bridge



- (10) With respect to navigating through the two Brightman Street Bridges, following are some factors that currently impact most commercial traffic using this waterway segment, and would likewise impact LNG traffic.
- (a) Daylight. There are currently no nighttime transits by commercial shipping traffic through the two Brightman Street bridges, and pilots will not make a night time transit with the current configuration of the waterway. Daytime-only transits have been proposed as a Federal regulation. See the notice of proposed rulemaking “Regulated Navigation Area: Narragansett Bay, RI and Mount Hope Bay, MA, Including the Providence River and Taunton River”, Coast Guard docket CGD01-06-052, published in the Federal Register on May 25, 2006, Vol. 71, No. 101, pages 30108-30112. (See enclosure (1), document 32.)
 - (b) Visibility. Current practice by marine pilots calls for no transits in less than one mile visibility.
 - (c) Winds: Current practice by marine pilots calls for no transit through the old Brightman Street Bridge when winds exceed 12 knots sustained, 15 knot gusts, on the beam. Excessive wind on the beam decreases control and

maneuverability of the ship in close quarters situations, and could lead to allisions, collisions or groundings.

- (d) Tides: Outbound transits of the old Brightman Street Bridge are conducted on a flood tide only to ensure sufficient water flow over a vessel's rudder as it proceeds at very slow speed through the opening of the bridge. Water flow over the rudder provides a vessel with some level of control over its own movement through the 98-foot wide bridge opening, where tugs are of limited effectiveness while the vessel is actually within the bridge opening.
 - (e) Inbound transits of a laden LNG tanker through the dredged channel in Mount Hope Bay and the Taunton River are possible only with sufficient tidal lift. A delay in the transit while the tanker is in one of these channels could result in the vessel losing its tidal lift and could cause temporary grounding.
 - (f) Air Draft: In the waterway from Sandy Point to the Weaver's Cove facility, the proposed LNG tankers would have to safely pass beneath the Mount Hope Bridge, the Braga Bridge, and overhead power cables in Fall River. While Weaver's Cove provided no specifics as to the height of its proposed LNG tankers, it did state that the tankers would be designed to safely pass beneath the Mount Hope and Braga Bridges, each of which have a minimum clearance of 135 feet at Mean High Water. The overhead power cables in Fall River have a minimum clearance of 150 feet at Mean High Water, so vessels designed to pass safely beneath the Mount Hope and Braga Bridges would also pass safely beneath the overhead power cables.
- d. The Coast Guard Captain of the Port Southeastern New England, has personally transited Segment Three of the waterway on several occasions on commercial cargo and Coast Guard vessels to observe and gauge the factors affecting navigation safety.
- e. The following additional factual information is provided in accordance with 33 CFR §127.009(d) regarding the waterway directly adjacent to the proposed facility:
- (1). **Depths of the water:** Proposed to be dredged to a depth of 41 feet MLLW alongside.
 - (2). **Tidal Range:** Per the National Oceanic and Atmospheric Administration (NOAA), the tidal range between Mean High Water and Mean Low Water at Fall River, Massachusetts, is 4.36 feet, but can vary from as much as 5.41 feet mean spring range of tide to as little as 2.35 feet mean tide level.
 - (3). **Protection from the high seas:** The site of the proposed Weaver's Cove facility in Fall River, Massachusetts, is approximately 25.4 miles inland from the entrance to Narragansett Bay.

- (4). **Natural hazards, including reefs, rocks, and sandbars:** Other than insufficient depth of water outside of the 400 federal channel, and outside of the turning basin proposed to be deepened as proposed by Weaver's Cove, the natural hazards, reefs, rocks, and sandbars are as depicted on the NOAA charts 13221, 13226, and 13227.
- (5) **Underwater pipelines and cables:** As depicted on NOAA charts 13221, 13226, and 13227.
- (6) **Distance of berthed vessel from the channel, and the width of the channel.**
 - (a.) **Proposed LNG vessel:** As proposed, an LNG vessel berthed at the Weaver's Cove facility would be adjacent to, but not in, the Federal channel and would in fact be adjacent to a turning basin that Weaver's Cove proposes to widen to accommodate LNG vessels.

3. WEAVER'S COVE PROPOSAL

- a. On May 12th, 2004, Weaver's Cove LLC submitted a Letter of Intent with respect its proposal to construct and operate a new waterfront facility handling LNG in Fall River, Massachusetts. (This is referred to as the "larger tanker proposal".) The dimensions of LNG tankers, and frequency of tanker portcalls, proposed by Weaver's Cove are contained in Table 1 below.
- b. On February 2nd, 2006, Weaver's Cove LLC submitted a "Change of Information Letter of Intent to Operate a Newly Constructed Waterfront Facility Handling LNG." The letter stated that, due to the retention of the existing Brightman Street bridge (a consequence of the SAFETEA-LU Act cited above), utilization of smaller size LNG vessels, with more frequent deliveries, was required. (This is referred to as the "smaller tanker proposal"). The dimensions of LNG tankers, and frequency of tanker portcalls, proposed by Weaver's Cove in this letter are contained in Table 1 below.

Table 1 – Vessel Dimensions and Frequency of Shipments

<u>Proposed LNG vessels:</u>	<u>Length (ft)</u>	<u>Beam (ft)</u>	<u>Draft (ft)</u>	<u>Volume (m3)</u>	<u>Frequency of Shipments (annual)</u>
Original LOI: (Letter of May 12, 2004)	950	145	37.5	145,000 ¹	60 port visits (120 transits of the waterway)
Amended LOI: (February 2, 2006)	725	82	36	55,000	120-130 port visits (240 – 260 transits of the waterway)
Amended LOI: (February 2, 2006), as modified by the Ship Design Report (February 21, 2007) and Environmental Assessment of the Use of Small Ships of November 2006	750 ²	85 ²	37.5 ²	55,000	120-130 port visits (240 – 260 transits of the waterway)

- c. Modeling: Weaver’s Cove submitted a letter with navigation modeling information to the Coast Guard on February 21, 2007. The navigation modeling involved a ship of dimensions 732.2 feet long, by 78.8 feet wide, by 33.8 feet draft, and was conducted by Marine Safety International (MSI), on behalf of Weaver’s Cove LLC. The reports submitted for this modeling effort are contained in enclosure (1), document 38. The Weaver’s Cove transmittal letter with this modeling submission stated that the final design of the proposed smaller LNG tanker could not be determined, but suggested that the dimensions of the smaller tanker may extend to 750 feet long, by 85 feet wide, by 37.5 feet draft. Additionally, in May 2007 a report was submitted by the Northeast Marine Pilots to Weaver’s Cove regarding their assessment in participating in the modeling work at MSI.

(1) Some relevant comments from the report include:

- (a) The Northeast Marine Pilots cautioned that the simulator had “inherent limitations” and that the tanker hull design had “not been proven.”

¹ The Ship Design Report uses the figure of 155,000m³ of cargo carrying capacity vice the earlier figure of 145,000 m³ for the larger tankers. The increase in cargo carrying capacity is attributed to refinements in cargo containment design coupled with the reduced space occupied by a newer, smaller, propulsion system and smaller fuel tanks.

² Weavers Cove has proposed a “range of ship sizes” up to and including the dimensions listed here.

- (b) The vessel modeled was not of the dimensions as that of the largest ‘small tanker’ now proposed, as noted in Table 2 below:

Table 2 – Vessel Dimensions

	<u>Length (feet)</u> ³	<u>Beam (feet)</u>	<u>Loaded Draft (feet)</u>
Vessel Modeled⁴	732.2	78.8	33.8
Vessel Proposed⁵	750	85	37.5

- (c) The simulation modeling used “one tug on the stern acting as a brake” which is necessitated by the presence of the Brightman Street bridges in close proximity and nearly parallel to each other. While the size of the simulator tug is not specified, Weaver’s Cove indicates that the typical length of actual tugs it would employ are from 92 to 95 feet. The length of the towline or distance between the simulated tanker and tug is not specified.
- (d) In its simulation report, the Northeast Marine Pilots stated that it had historically piloted vessels up to 90’ wide through the old Brightman Street bridge, but has reduced that to 80’ in large part because “the new bridge has been built in the center of the federal channel, while the old bridge is on the western limit of the federal channel. Therefore the two bridges do not line up and are in significantly close proximity to each other.”
- d. Weaver’s Cove has proposed various measures to mitigate risks to navigation safety, including dredging the 35-foot deep Federal channel to 37 feet at MLLW, enlarging and dredging to 41-feet deep the turning basin that currently exists adjacent to the facility site, making aids-to-navigation improvements including additional buoys and enhancements to the NOAA PORTS Physical Oceanographic Real Time System, adding improved tanker organic maneuvering capabilities (e.g., bow and stern thrusters) and improved external capabilities such as the use of three tractor tugs and two pilots when maneuvering through the Brightman Street bridges.

³There is some ambiguity regarding the exact dimensions of the proposed LNG tanker. In its letter of February 2, 2006 (the “smaller tanker” proposal), Weaver’s Cove indicates that the size of the proposed LNG tankers would be 725 feet long by 82 feet wide by 36 feet deep. In a subsequent letter dated February 21, 2007 (“Weaver’s Cove Energy, LLC, Amended Letter of Intent, Additional Smaller LNG Ship Design, Navigational and Operational Data”), Weaver’s Cove proposed a “range of ship sizes” up to and including the dimensions noted here. Consequently, the Coast Guard used the latest information provided by Weaver’s Cove, which was for larger “small tankers”.

⁴ Per the May 2007 report of Northeast Marine Pilots “Report on the Feasibility study of the Proposed Weaver Cove LNG Ship to transit from Sea to the proposed LNG terminal in Fall River”

⁵ Per Weaver’s Cove letter of February 21, 2007

- e. The waterway through which LNG tankers are proposed to transit is described in section 4.12.5 of the FERC FEIS (enclosure (1), document 6), with one major exception. Per Table 4.12.5-1 of that document, LNG tankers would be required to transit under or through the four bridges listed. But, the FERC FEIS assumed that the old Brightman Street Bridge would be “replaced with a bascule type bridge that is to be completed in 2010.” (See page 4-260). Per the SAFETEA-LU Act cited above, there are currently no plans to demolish the old Brightman Street Bridge, so that a fifth bridge, in addition to the four listed in Table 4.12.5-1, must be navigated by LNG tankers.
- f. In its letter of July 18, 2007, Weaver’s Cove notes that coal ships are permitted to transit through the two Brightman Street bridges. Weaver’s Cove states the “dimensions of the small LNG ships contemplated in (our) revised LOI are comparable to those of the coal ships” and argues that, when compared to coal vessels “comparably sized LNG vessels should be acceptable provided the handling characteristics of the smaller LNG ships are equal to or better than those of the coal ships.”

C. ANALYSIS:

1. Waterway.

- a. **Segment One (entrance of Narragansett Bay to Sandy Point).** The safety mitigations proposed by Weaver’s Cove could potentially address the navigation safety risks associated with transiting this segment of the waterway, pending further maritime security and environmental impact analysis commensurate with the proposed smaller tankers and increased number of transits.
- b. **Segment Two (Sandy Point to Borden Flats).** The safety mitigations proposed by Weaver’s Cove, excepting that portion of the channel north of Mount Hope Point, could potentially address the navigation safety risks associated with transiting this segment of the waterway, pending further maritime security and environmental impact analysis commensurate with the proposed smaller tankers and increased number of transits. However, once a LNG tanker enters the 400-foot wide Federal channel at a point adjacent to Mount Hope Point, there are very limited options in terms of responding to a disabling incident or accident. In short, once a northbound LNG tanker enters the Federal channel in this segment, they are committed to completing the entire transit – there is no feasible alternative. As such, the navigation safety issues identified for Segment Three are inextricably linked to Segment Two north of the Federal Channel entrance. In the event of a disabling casualty in the Federal Channel in Segment Two for a vessel of the proposed length and draft there appear to be two options: either tow the tanker backwards out of the channel, or tow it through the channel all the way to the Weaver’s Cove facility, both subject to sufficient under-keel clearance provided by a favorable tidal lift, among other constraints. Given the situation of the two Brightman Street bridges described

elsewhere in this Letter, the latter option is not feasible. The former option to be towed backwards down the channel would require extraordinary navigational maneuvers and present additional risks. Both options would require additional time, and would preclude use of the channel by other commercial traffic and most recreational traffic during the evolution.

c. Segment Three (Borden Flats to the Weaver's Cove facility).

- (1) Listed below are key factors affecting the suitability of this segment of the waterway with respect to navigation safety. The issue of the Brightman Street bridges is discussed in greater detail in below.
 - (a) Proximity of the waterway to population concentrations
 - (b) Proximity of the Brightman Street Bridges to each other.
 - (c) Dimensions and condition of the old Brightman Street Bridge.
 - (d) Channel offset between bridges.
 - (e) 55-degree turn required beneath and just north of the Braga Bridge.
 - (f) Close proximity of the channel to Fall River piers, vessels moored thereto, infrastructure (e.g., I-195/Braga Bridge) and USS MASSACHUSETTS museum complex.
 - (g) Conditions favorable to inbound and outbound transits are severely limited by proposed vessel's length, breadth, and draft, available daylight hours, tidal state, wind, minimum two-mile visibility, and infrastructure.
- (2) The PAWSA assumptions that (1) the old Brightman Street bridge would be removed, and (2) transits would be about 50-60 each year are no longer accurate. The presence of an additional (retained) bridge, and the more frequently proposed deliveries (doubled), elevates the risk of an accident or incident and were not considered by the PAWSA.
- (3) The configuration of the two Brightman Street bridges, as they relate to each other and the navigation channel, results in a compound navigational challenge when considering the proposed tanker's length, breadth, and draft dimensions, the number of assist tugs, and the application and coordination of security forces. The proximity and arrangement of the old and new Brightman Street Bridges to each other presents an elevated risk of the proposed vessel striking either or both bridges. The current navigational challenges have been recognized by both marine pilots and the Coast Guard, which has prompted a Federal rulemaking to impose vessel transit conditions and restrictions as described above.
- (4) While approaching and proceeding through the Brightman Street bridges, the tanker would proceed with assistance from one to three tugs, and would at one or more points be completely stopped between the bridges while it moves transversely to align itself with the next bridge opening. This maneuver might be described as a "locking through" of the vessel between the old and new bridges, where towing vessels need to be most effective to mitigate limited

maneuverability of the vessel, compounded by the very limited maneuvering room for multiple vessels associated with the LNG tanker bridge transit in the area. This 'locking through' would occur up to 260 times per year under this small tanker proposal in a waterway segment having significant infrastructure and the greatest population concentration along the 25.4 nautical mile inland route. Maneuvering safely and repeatedly through and between both bridges needs to be virtually certain for the proposed frequent LNG vessel transits. The proximity and arrangement of the old and new Brightman Street Bridges to each other makes safe navigation highly challenging for the proposed vessels. Specifically, not only is the old 98-foot wide bridge narrow relative to the 85-foot wide tankers proposed, but a transiting vessel through the first bascule opening must stop forward momentum to avoid striking the second bridge in a very short distance (less than $\frac{1}{4}$ ship length). Once stopped, the vessel must be moved sideways approximately one hundred feet with tugs and/or bow and stern thrusters, to become aligned in the channel for passage through the opening of the new bridge. Once aligned with the new bridge opening, the vessel must transit through, and proceed approximately 0.7 miles to the Weaver's Cove berth. The reverse must occur on an outbound transit.

- (5) A Coast Guard study has found that "about 75-96% of marine casualties are caused, at least in part, by some form of human error." Other studies have shown that human error has contributed to 84-88% of tanker accidents, and 75% of allisions. (Enclosure (1), document 1.) In addition to the narrow high tide transit window that would provide sufficient underkeel clearance, the close proximity of the Brightman Street bridges to each other, the narrow horizontal opening of the old bridge, and the channel off-set between the two bridges provide very little tolerance for human error while simultaneously introducing numerous risk factors. These risk factors are further compounded by wind, current, and the presence of security boats, among other things. A safe transit through these two bridges requires numerous mechanical and behavioral factors to succeed (not fail). Repeatable safe transits are dependent upon the highest probabilities of success for each of the component risk factors. The navigational maneuver that must be successfully executed in each transit to avoid an adverse striking of either bridge is considered very complex. The following risk factors, at a minimum, are deemed relevant to a safe transit:

- (a) Risk/probability of helmsman error, resulting in a bridge allision.
- (b) Risk/probability of engine order telegraph operator error, resulting in a bridge allision.
- (c) Risk/probability of conning error by pilot(s)/master, resulting in a bridge allision.
- (d) Risk/probability of human error by ship's bow and/or stern thruster operator, resulting in a bridge allision.
- (e) Risk/probability of human error by any of three tug operators that adversely affects control of the tanker, resulting in a bridge allision.
- (f) Risk/probability of mechanical failure in any of the three tugs adversely affecting control of the tanker while transiting a bridge, resulting in a bridge allision.
- (g) Risk/probability of coordination error between pilots when two pilots are in the wheelhouse, or between pilot and the master, adversely affecting navigation safety during bridge transits, resulting in a bridge allision.
- (h) Risk/probability of ship steering failure resulting in a bridge allision
- (i) Risk/probability of loss of ship's main propulsion resulting in a bridge allision
- (j) Probability of accurate vessel draft calculation, under-keel clearance, and transit time from sea to allow for bridge transit without grounding in the dredged channel.
- (k) Probability of a clear channel without obstructions.
- (l) Probability that favorable wind predictions are accurate and conservative for safe bridge transit, such that wind gusts do not set the ship onto a bridge while transiting.
- (m) Risk of mechanical failure of bridge opening systems on the old bridge (assuming the bridge is normally in the down position).
- (n) Risk of mechanical failure of bridge opening systems on the new bridge.
- (o) Risk of electrical failure to bridge operating system (old bridge) (assuming the bridge is normally in the down position).
- (p) Risk of electrical failure to bridge operating system (new bridge).
- (q) Probability of bridge operator error in opening the old Brightman Street bridge to a full vertical position (assuming the bridge is normally in the down position).

Multiplying the probability of all of these risk factors, considered together for each transit of the bridges, while also considering the difficulty of the maneuver, leads only to a conclusion that the waterway is not suitable for marine traffic of the dimensions, type, and frequency proposed by Weaver's Cove.

- d. The current practice by marine pilots is to restrict transits through the two Brightman Street bridges to daylight hours. A fundamental requirement for these transits is to have the very best visibility to judge the current, the wind, and to otherwise see all aspects of a vessel's movement through the narrow bridge opening; this is paramount. The current practice is a clear indication by vessel operators, marine pilots, and the Coast Guard that

night transits through the two Brightman Street bridges would elevate the risk, and consequently the waterway in the vicinity of the Brightman Street bridges is not suitable for night transits.

- e. As proposed by Weaver's Cove, the smaller tankers would be 725 to 750 feet in length. When transiting through the Brightman Street bridges, each tanker would be accompanied by a tug astern of approximately 100 feet in length, which would be "made up" to the tanker's transom by a towline extending approximately 50 or more feet. This tanker/tug combination would essentially act as a single vessel approximately 900 feet in length, attempting to execute precise maneuvers in the waterway segment between the Brightman Street bridges that is only about 1100 feet wide. This maneuvering would be attempted 240 to 260 times annually, and the tanker/tug combination would be accompanied by at least two additional tugs and a security flotilla, further complicating navigation safety. Maneuvering an LNG tanker with an 82- or 85-foot beam through a 98-foot opening, and preventing that same vessel combination of approximately 900 feet in overall length (tanker plus tug astern) from colliding with a bridge only about 1100 feet beyond the first bridge requires extraordinary precision and should only be attempted—if ever—in the most ideal of conditions, not 240 to 260 times per year in a variety of environmental conditions. Should any vessel(s)—not only LNG tankers, but even vessels carrying non-hazardous cargoes—of similar dimensions attempt such maneuvers I would have similar reservations in terms of navigation safety, particularly at such frequency.
- f. Given that the pilots, on their own volition and presumably in the interest of navigation safety, have reduced the maximum beam allowance for vessels currently transiting the Brightman Street bridges (none of which carry flammable cargo as defined by Federal regulation) to 80 feet (see enclosure (1), document 41), the Coast Guard can find no rationale to support a finding that the waterway is suitable for vessels with a beam of over 80 feet carrying 55,000 cubic meters of LNG, even after considering the enhanced maneuvering capability proposed for the smaller LNG tankers. Even with an 80-foot beam, the Coast Guard would not be likely to consider this segment of the waterway as suitable for the smaller LNG ships, for the reasons addressed elsewhere in this Letter.
- g. An accident while maneuvering an LNG tanker in the vicinity of the Brightman Street bridges could damage the fendering system and/or either bridge to the extent that the bridge(s) and the waterway may be closed to marine traffic for a prolonged period of time. In such a case, whether the LNG tanker is functionally damaged or not, the navigational effort to maneuver the tanker (presumably stern first) out of the Taunton River and Mount Hope Bay, to Narragansett Bay, would be extraordinary. Note that there is no practical turnaround option available in the 400' wide federal channel north of the Mount Hope Bridge for ships of the proposed length and draft, except in the turning basin adjacent to the NRG power plant facility, opposite the Weaver's Cove site. Although other vessels that currently transit this waterway (such as coal ships) could conceivably cause similar damage to either Brightman Street bridge, with similar adverse impacts, the dimensions and frequency of these vessel transits are far less than that proposed by Weaver's Cove. Additionally, coal vessels are not required to have a safety

and security zone enforced around them, and are not subject to a higher standard of care as prescribed for LNG tankers in Federal regulation.

h. Simulation Modeling:

- (1) Although not required, the May 2007 report of the Northeast Marine Pilots entitled “Report on the Feasibility study of the Proposed Weaver Cove LNG Ship to transit from Sea to the proposed LNG terminal in Fall River” (enclosure (1), document 41) was helpful. Much weight has been assigned by Weaver’s Cove to the simulation modeling conducted by the Northeast Marine Pilots at the Marine Safety International facility in Middletown, RI. Simulation modeling is a valuable tool to test concepts and provide risk-free training in certain applications, but it is just that—simulation—and subject to limitations, such as those noted in the Pilots’ report. The Captain of the Port personally observed simulated transits of an LNG ship at Marine Safety International on May 24, 2007, and appreciates that both Northeast Marine Pilots and Marine Safety International submitted feasibility evaluations. Simulated environmental conditions for modeling transit on May 24, 2007 were “ideal,” and an experienced Northeast Marine Pilot was controlling the vessel, yet it appeared to me that the stern tug came unacceptably close to the fender of the new Brightman Street Bridge (an exact determination could not be made due to the inherent limitations of the simulator). As discussed above (and as confirmed in the simulator), a tethered stern tug is essential to effectively controlling an LNG tanker transiting through the Brightman Street bridges, but it also serves to effectively add to the overall length of the tanker itself, extending the effective length of the proposed tanker to nearly 900 feet, which allows only the narrowest of margins when there is 1100 feet spacing between the two bridges. The Captain of the Port also observed this maneuver several times during actual transits of the bridges on coal ships destined to or from the NRG power plan in Somerset.
- (2) Importantly, the feasibility evaluation of the Northeast Marine Pilots contains a number of caveats and qualifiers that lends only nominal weight to their conclusion that the simulation project “suggests” that tanker transits would be safe. Both the Captain of the Port’s personal observations of the simulations and a close examination of the feasibility evaluations, and substantial personal observations of actual ship transits through this segment of the waterway with pilots and vessel masters, affirm the Coast Guard’s determination that the waterway surrounding the Brightman Street bridges is not suitable for routine transits of LNG marine traffic.
- (3) Whether assuming the larger ‘small tanker’ dimension (750’ x 85’ x 37.5’) or the original small tanker dimensions (725’ x 82’ x 36’), the Coast Guard’s navigation safety analysis is similar and leads to the same understanding of the proposal in terms of suitability of the waterway for marine traffic of the type and frequency proposed by Weaver’s Cove.
- (4) The items above are mentioned not to discount the value of simulation modeling, but to highlight that the risk-free value of simulation must be appropriately weighed, and

is only one of many components considered in evaluating the suitability of the waterway for LNG marine traffic. The probabilities associated with human factors, mechanical factors, and environmental factors which must be precisely aligned for a safe transit through the Taunton River are critically important, but not addressed in the scope of the submitted analysis. While the simulations may suggest that safe transits are feasible, they offer no substantive analysis that such transits can be routinely performed safely, do not account for historical accidents, do not account for relevant human error and mechanical failure probabilities, and certainly do not demonstrate that the waterway itself is suitable for such transits.

- i. Coal Ships: The LNG vessels proposed by Weaver's Cove are not comparably sized with coal ships currently transiting the waterway, nor would the proposed LNG vessels carry cargo of comparable risk. Table 3 below provides a comparison between currently transiting coal ships and the proposed LNG tankers.

Table 3 – Comparison of Coal Ships to Proposed LNG Tankers

Largest vessel transiting Brightman St. bridges:	Coal vessel	Proposed LNG vessel	Difference (absolute)	Difference (percent)
Length	539.14 feet (M/V Winterset)	750 feet	210.86 feet	39.11
Beam	77.76 feet (M/V Clipper Ranger)	85 feet	7.24 feet	9.3
Draft	28.5 feet (M/V Winterset, & M/V Clipper Ranger)	37.5 feet	9	31.6
Approximate displacement (metric tons)	28,000 (M/V Winterset)	43,000 (modeled vessel, which is smaller than the proposed vessel)	15,000	53.6
Number of total annual deliveries	25	120-130	95-105	380-420
Flammable cargo as defined in 33 CFR §154?	No	Yes	N/A	N/A

- j. Given the characteristics of the waterways, particularly its narrowness, off-set channel, and close proximity of bridges to each other, any safety and security zone encompassing a tanker would effectively stop all marine traffic in the Taunton River during the vessel's transit through the old and new Brightman Street bridges. The period of marine traffic stoppage was not evaluated for the condition of two Brightman Street bridges (with offset openings) in place, and for 260 bridge transits. Stoppage of vessel traffic to permit frequent transits of LNG tankers could adversely impact navigation safety, particularly for vessels subject to transit restrictions through the old Brightman Street Bridge (wind,

flood current, sufficient tide, daylight, etc.), and for vessels that would have to exit the relative safety of the navigation channel and await the LNG tanker's passage in less-safe waters outside the channel.

- k. There is very minimal room for tugs and escort vessels to react to a loss of power or steering error under the Braga Bridge or through the Brightman Street bridges.
- l. In conducting this analysis due consideration was given to the various measures proposed by Weaver's Cove to mitigate risk to navigation safety.
- m. In conclusion, of the entire proposed transit route, the area of highest apparent potential consequence in the case of accident or incident—the Fall River/Somerset metropolitan area of the Taunton River—is also the area of highest navigational safety risk. The sum of measures, mitigations and precautions described in the Weaver's Cove proposal are not sufficient to reduce the risks to a point where the waterway can be declared suitable for the proposed cargo transits.

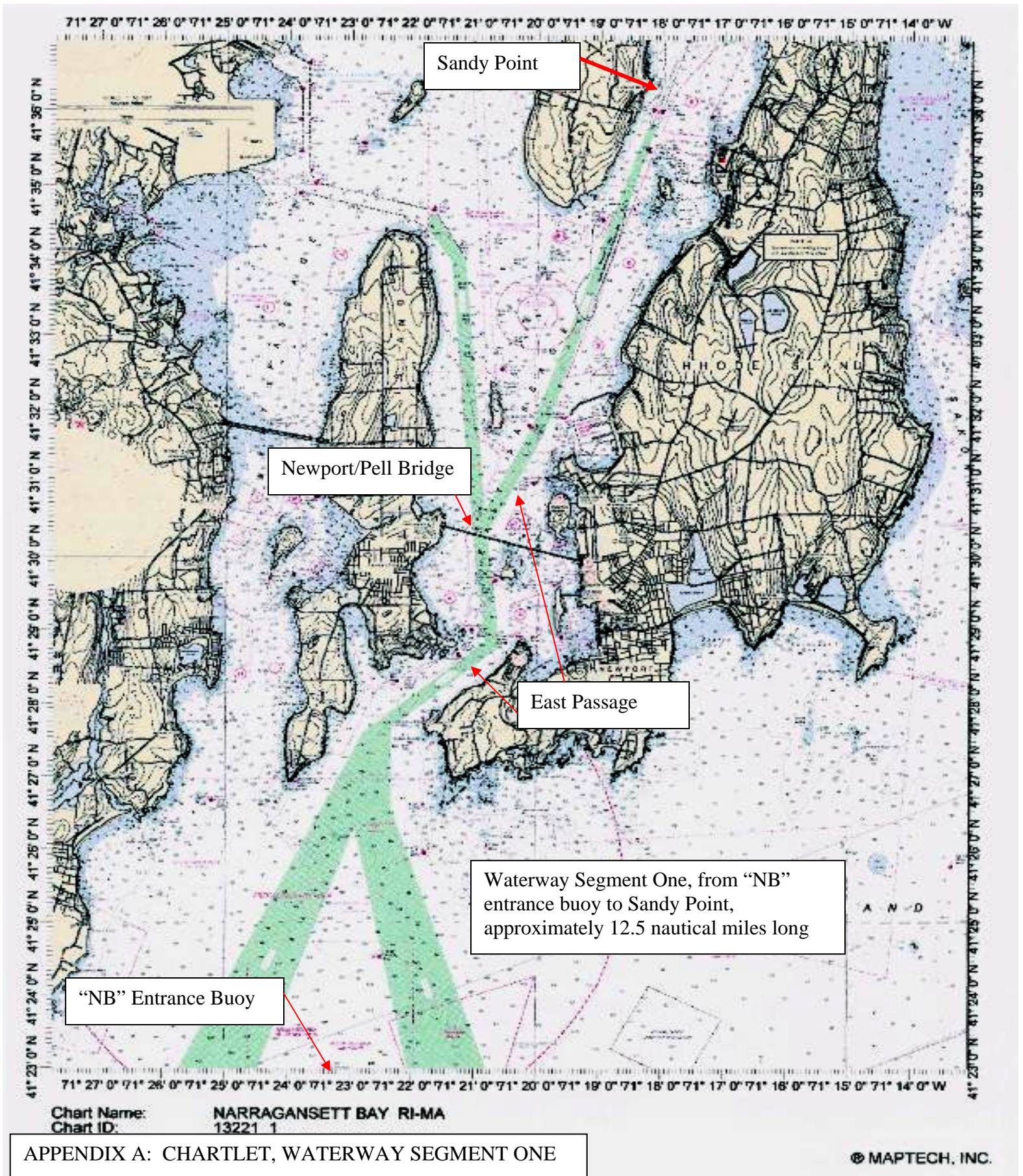
D. RECOMMENDATIONS:

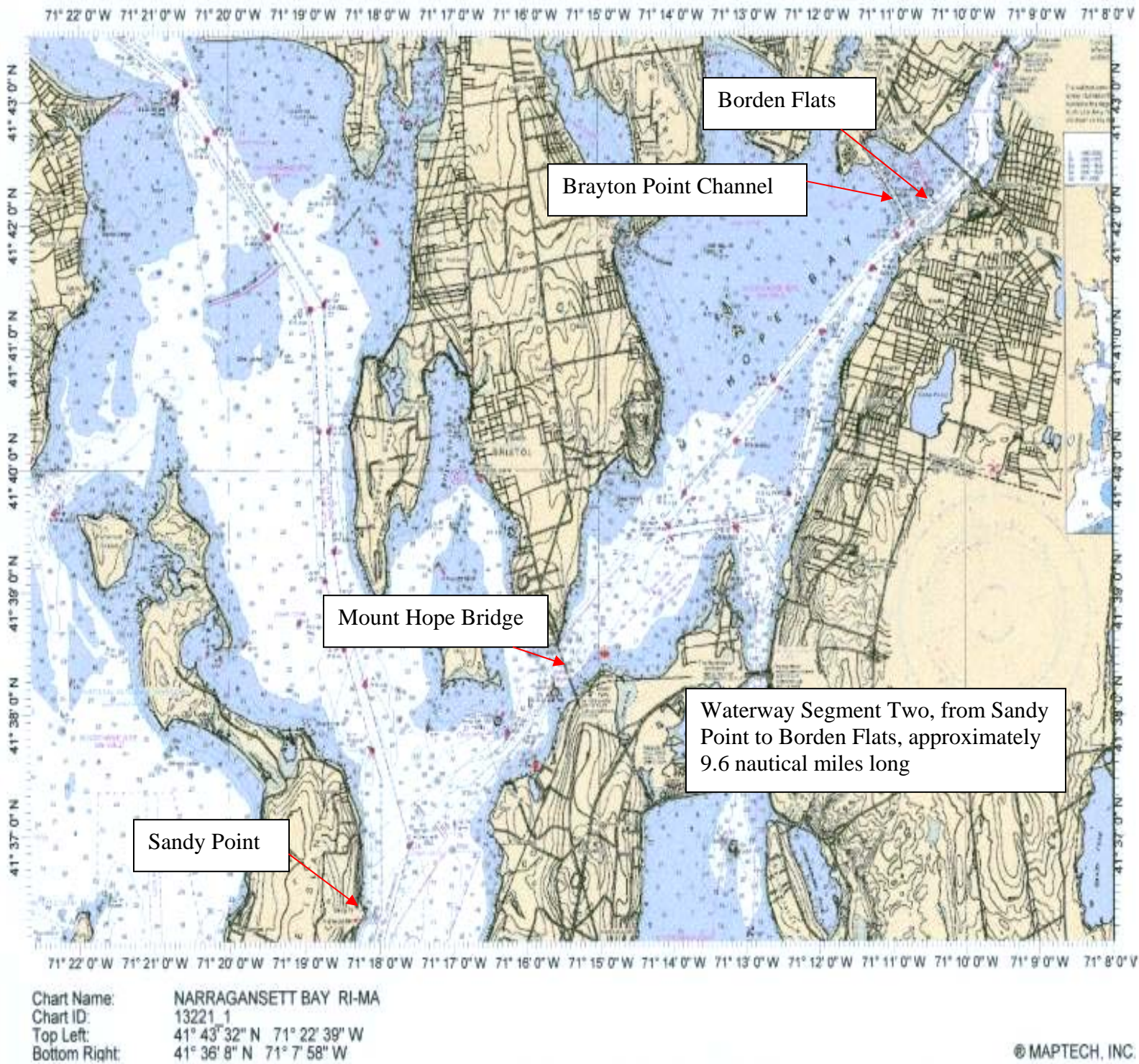
1. Recommendation as to suitability: Transit Route Segment One: Although the navigational safety aspects of LNG tanker transits on this segment of the route are not addressed in detail in this letter, vessels of similar dimensions as those proposed by Weaver's Cove, and carrying hazardous cargoes, currently transit along this segment enroute the Port of Providence, RI. The impacts of frequently arriving and departing 'small LNG tankers', as proposed, has not been addressed specifically. Because of the issues with waterway Segments Two and Three described throughout this document, and below, further analysis of the navigational safety aspects of Segment One is not pursued. Therefore, I offer no recommendation as to the suitability of this segment.
2. Recommendation as to suitability: Transit Route Segment Two: It is possible that LNG transits could be safely conducted from Sandy Point northeasterly to the line approximately between Mount Hope Point and Common Fence Point. Northeast of that line, however, the channel becomes restricted, particularly by width and depth. As the channel is only 400 feet wide from the above described line for about 4 ¼ miles until north of the Braga Bridge in Segment Three, and then 600 feet wide north of the Braga Bridge but narrowing to 98 feet at the old Brightman Street bridge, any northbound LNG tanker of the size proposed by Weaver's Cove cannot be turned around until the ship reaches the turning basin adjacent to its destination. Thus, any casualty disabling an LNG tanker occurring in the northeast portion of Segment Two would present two unattractive options: either back the ship out, into Segment One, which would require a rather extraordinary navigational maneuver or second, tow the ship under the Braga Bridge and through the Brightman Street bridges, to be turned around in the vicinity of Weavers Cove. Given my recommendations regarding Segment Three, described below, any casualty requiring a dead-ship towing evolution into Segment Three may present an unacceptable risk of another, more significant casualty. Therefore, my recommendation is that Segment Two is UNSUITABLE for the transit of LNG tankers as proposed.

3. Recommendation as to suitability: Transit Route Segment Three: Segment Three presents numerous navigational safety challenges, as described in this analysis, including, but not limited to: the transit in the vicinity of the Braga Bridge, USS MASSACHUSETTS and Battleship Cove, and the transit between the two Brightman Street Bridges. After carefully reviewing the record, reviewing the provided simulation and modeling data, conducting analysis of navigation safety parameters, and considering my personal observations of vessels being navigated through this waterway segment, it is my conclusion that transits of LNG vessels of the dimensions proposed, at the frequency proposed, cannot be safely conducted on a routine, repeatable basis, and that the risk of a casualty is unacceptably high. Therefore, my recommendation is that waterway Segment Three is UNSUITABLE for the transit of LNG tankers as proposed.
4. Overall recommendation as to suitability. Given that I recommend that segments 2 and 3 of the proposed route are unsuitable for the transit of the proposed LNG tankers, my overall recommendation is that the waterway northeast of the line between Mt. Hope Point and Common Fence Point is UNSUITABLE for the transit of the proposed LNG tankers. In making this ultimate recommendation, I have considered the factors listed in 33 CFR §127.009, as described throughout this document.
5. Recommendation as to action in the event of LNG transits. In addition to analyzing the specific requirements set forth in 33 CFR §127.009, I have taken into account my overarching responsibilities as Captain of the Port, Federal Maritime Security Coordinator, and Federal On-Scene Coordinator. See, e.g., 33 C.F.R. §§ 3.01-1 (d)(1), 3.05-20, Executive Order 10173, 33 U.S.C. § 634, 33 U.S.C. § 1221, et seq. (the Ports and Waterways Safety Act of 1972, as amended); 50 U.S.C. § 191 (the Magnuson Act), 46 U.S.C § 70101, et seq. (the Maritime Transportation Security Act of 2002, as amended) and 40 C.F.R. Part 300 (the National Response Plan). Based on my thorough review of the facts before me, even without the Letter or Recommendation process of Part 127, to fulfill my responsibilities to ensure the safety of the waterway, I would feel compelled to use my discretionary authorities to control vessel movements to prohibit the recurrent transit of LNG tankers from northeast of the line between Mt. Hope Point and Common Fence Point, under the Braga Bridge and through the Brightman Street Bridges and to the north of those bridges in the Taunton River.

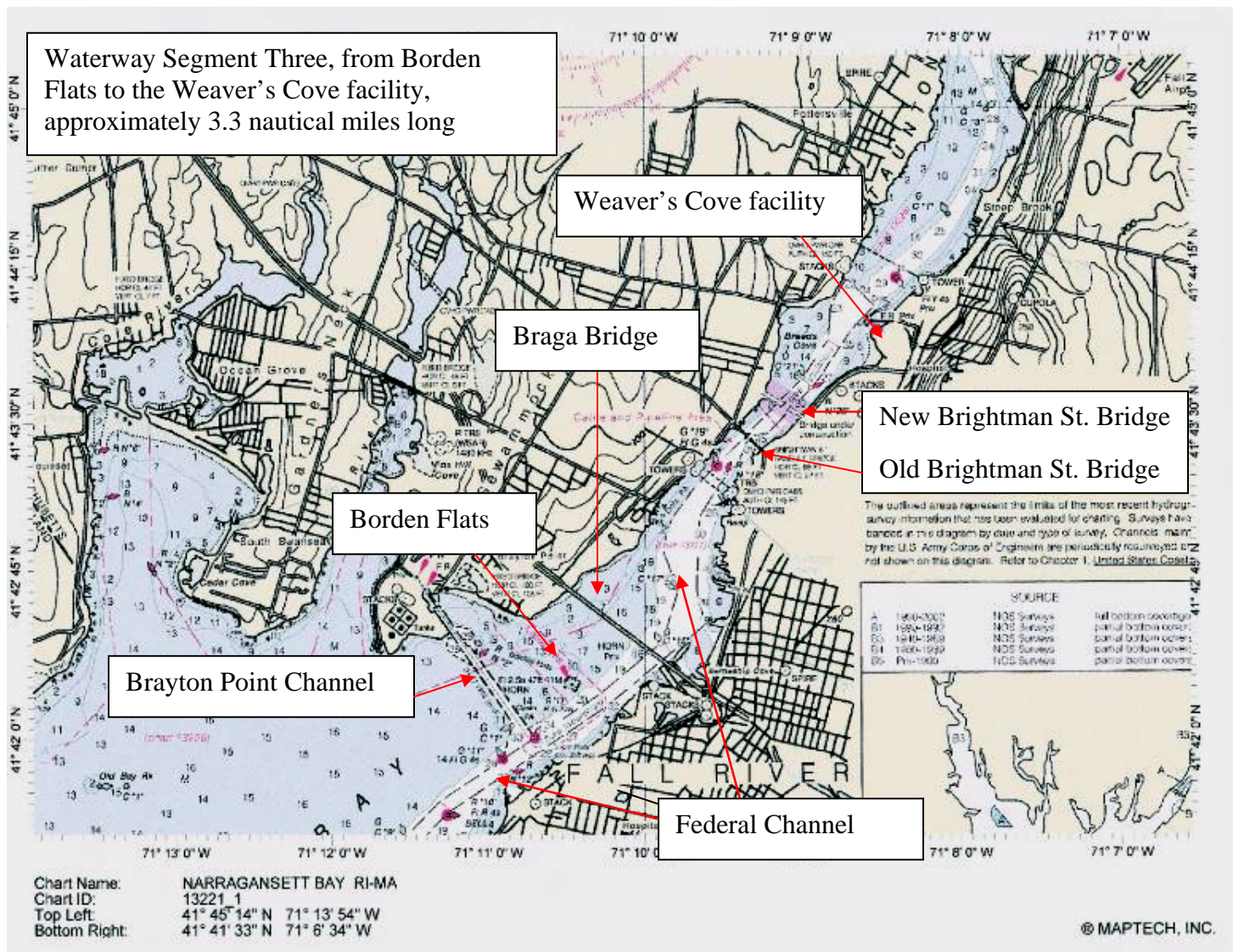
Appendices:

- A: Chartlet of Waterway Segment One
- B Chartlet of Waterway Segment Two
- C Chartlet of Waterway Segment Three





APPENDIX B: CHARTLET, WATERWAY SEGMENT TWO



APPENDIX C: CHARTLET, WATERWAY SEGMENT THREE